

AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings include the Examiner's requested changes to FIG. 2. Specifically, Applicants have amended FIG. 2 to include descriptive labels for reference numbers 22, 23, 25, and 27. The added labels are consistent with the description in Applicants' specification, for example, at page 9, lines 11-27. Applicants attach a Replacement Sheet including the corrected figure and an Annotated Sheet showing where changes have been made.

Attachments: Replacement Sheet of FIG. 2
Annotated Sheet showing changes to FIG. 2

REMARKS

Applicants submit this Reply in response to the non-final Office Action mailed September 9, 2008. Claims 41, 43-66, 79, 81, and 82 are currently pending, of which claims 41, 55, 79, and 81 are independent. Applicants have amended independent claims 41, 55, and 79. In the non-final Office Action, the Examiner objected to the drawings for failing to show certain descriptive labels in FIG. 2. The Examiner rejected claims 41, 43-49, 51, 54-62, 64, 79, 81, and 82 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0224802 ("Nir et al.") in view of U.S. Patent Application Publication No. 2003/0085838 ("Zhao"). The Examiner rejected claims 50, 52, 53, 63, 65, and 66 under 35 U.S.C. § 103(a) as being unpatentable over Nir et al. and Zhao and further in view of U.S. Patent Application Publication No. 2003/0125046 ("Riley et al."). Applicants respectfully traverse the pending objections and rejections for at least the reasons set forth below.¹

Drawings

The Examiner objected to the drawings under 37 C.F.R. § 1.83(a) because they "fail to show descriptive labels for the boxes in Fig. 2." Non-final Office Action dated September 9, 2008, at 2. Applicants have amended FIG. 2 to include descriptive labels for boxes 22, 23, 25, and 27, consistent with their description in the specification, for example, at page 9, lines 11-27. In view of these amendments to the drawings, Applicants submit that the drawings objections are overcome.

¹ The Office Action contains a number of statements reflecting characterizations of the Applicants' disclosure, including the claims, and the related art. Regardless of whether any such statement is specifically addressed herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

Rejections Under 35 U.S.C. § 103(a)

Applicants respectfully traverse the Section 103(a) rejections of claims 41, 43-66, 79, 81, and 82. To establish a *prima facie* case of obviousness, “All Claim Limitations Must Be Considered.” M.P.E.P. § 2143.03 (8th ed., rev. 6, Sept. 2007). More specifically, the M.P.E.P. requires that “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *Id.* (quoting *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970)). Applicants submit that a *prima facie* case of obviousness has not been established for at least the reason that the cited art, whether taken alone or in combination, fails to teach or suggest every element recited in Applicants’ independent claims 41, 55, 79, and 81, as presently amended.

A. Section 103(a) Rejections of Claims 41, 43-49, 51, 54-62, 64, and 79

Regarding Applicants’ independent claims 41, 55, and 79, each of these claims, as presently amended, calls for a combination including, for example, “deriving an estimate of said altitude coordinate from information related to an altitude of one or more network elements in said cellular communications system,” “determining at least one approximate search area using the estimate of said altitude coordinate and information provided by the satellite-based system,” and “identifying the coordinates of said mobile terminal in the at least one approximate search area.”

The Examiner acknowledges that “Nir does not teach the altitude coordinate which is related to the cellular communication (base station).” Non-final Office Action dated September 9, 2008, at 3. Consequently, there is no dispute that *Nir et al.* fails to disclose or suggest at least “deriving an estimate of *said altitude coordinate*,” “determining at least one approximate search area using the estimate of *said altitude*

coordinate,” and “identifying the coordinates of said mobile terminal in the at least one approximate search area,” as recited in Applicants’ amended independent claims 41, 55, and 79. Applicants submit that Zhao fails to remedy the above-noted deficiencies in Nir et al.

Zhao discloses methods for “locating satellite positioning system enabled mobile wireless communications handsets.” Zhao, ¶ 0001. To that end, Zhao discloses a “coarse altitude” that is used to determine an estimated location of a satellite positioning system receiver. See Zhao, ¶ 0017; FIG. 4. Zhao discloses that the “coarse altitude” may be determined as “the average altitude of the serving cell site or portion thereof or altitude of the base station antenna.” Zhao, ¶ 0017. Zhao also discloses that the coarse altitude alternatively may be determined using other techniques, such as using the receiver’s previously-obtained altitude data (or averaged data) stored on the receiver or using an output from an altitude sensor attached to the receiver. See Zhao, ¶ 0017. While Zhao generally discloses that “the coarse altitude is used to estimate a 3-dimensional location [of the receiver],” Zhao fails to disclose any particular technique(s) for deriving the receiver’s three-dimensional location based on the “coarse altitude.” Zhao, ¶ 0018.

In the Office Action dated September 9, 2008, the Examiner apparently equated Zhao’s disclosed “coarse altitude,” which may be the altitude of a base station antenna in a cellular communication system (Zhao, ¶ 0017), with Applicants’ claimed “estimate of said altitude coordinate” derived from “information related to an altitude of one or more network elements in said cellular communications system” as recited in independent claims 41, 55, and 79. Even if the “coarse altitude” in Zhao is assumed to correspond to

Applicants' claimed "estimate of said altitude coordinate"—an assumption with which Applicants do not agree—Zhao still fails to disclose or suggest at least "determining at least one approximate search area using the estimate of said altitude coordinate and information provided by the satellite-based system" and "identifying the coordinates of said mobile terminal in the at least one approximate search area," as claimed.

As noted above, Zhao is completely silent regarding how the "coarse altitude" is used to derive the receiver's three-dimensional location in a given area. Specifically, Zhao only generally discloses that "the coarse altitude is used to estimate a 3-dimensional location," without further specifying any details regarding how the coarse altitude is actually used to estimate the receiver's location. Zhao, ¶ 0018. Zhao does not hint or suggest of using the disclosed "coarse altitude" together with information provided by a satellite-based system to determine at least one approximate search area, let alone subsequently identifying the receiver's three-dimensional coordinates in such a search area.

Because of the absence in Nir et al. and Zhao, whether taken singly or in combination, of at least "determining at least one approximate search area using the estimate of said altitude coordinate and information provided by the satellite-based system" and "identifying the coordinates of said mobile terminal in the at least one approximate search area," Applicants submit that independent claims 41, 55, and 79, as amended, are allowable over the Examiner's applied art. Dependent claims 43-49, 51, 54, 56-62, and 64 depend on independent claims 41 and 55 and are therefore allowable for at least the same reasons.

Applicants point out that Riley et al. fails to cure these deficiencies in Nir et al. and Zhao. In the Office Action dated September 9, 2008, the Examiner cites to paragraphs 0036 and 0054 in Riley et al. as allegedly disclosing a search area used to determine the coordinates of a mobile terminal. See Non-final Office Action dated September 9, 2008, at 7. Applicants respectfully disagree with this characterization of Riley et al. to the extent that the Examiner suggests that these cited paragraphs disclose or suggest the “at least one approximate search area” recited in Applicants’ amended independent claims 41, 55, or 79.

Paragraph 0036 in Riley et al. discloses that a “mobile 66 notes the current PN number and sends it along with the recorded sector identity information to the PDE [position determining entity] in an IS-801.1 message.” Riley et al., ¶ 0036. The PN sequence in Riley et al. is transmitted by a base station in a CDMA cellular network. See, e.g., Riley et al., ¶ 0006 (“base station antenna transmitting the CDMA pilot pseudo-random (PN) sequence”). Paragraph 0054 in Riley et al. discloses that “the PDE attempts to associate the PNs seen by the mobile stations with specific cell sectors recorded in the base station almanac data base.” Riley et al., ¶ 0054.

As shown above, the Examiner’s relied-on portions of Riley et al. disclose a position determining entity (“PDE”) that locates specific cell sectors containing a mobile terminal using only PN numbers of sequences transmitted by base stations in the cell. In sharp contrast, Applicants’ independent claims 41, 55, and 79, as amended, each recites, *inter alia*, “determining at least one approximate search area using the estimate of said altitude coordinate and information provided by the satellite-based system.” Since the PDE in Riley et al. uses only PN numbers to identify cell sectors containing a

mobile terminal, and therefore does not employ satellite-based system information or altitude coordinates at all, the PDE in Riley et al. cannot determine “at least one approximate search area using the estimate of said altitude coordinate and information provided by the satellite-based system,” as recited in each of Applicants’ independent claims 41, 55, and 79.

In sum, Applicants submit that a fair and accurate reading of Riley et al. cannot remedy the absence of at least “determining at least one approximate search area using the estimate of said altitude coordinate and information provided by the satellite-based system” and “identifying the coordinates of said mobile terminal in the at least one approximate search area” in Nir et al. and Zhao, whether these cited references are considered singly or in any reasonable combination.

B. Section 103(a) Rejections of Claims 81 and 82

As noted above, the Examiner rejected claims 81 and 82 as being unpatentable under 35 U.S.C. § 103(a) over a combination of Nir et al. and Zhao. Applicants’ independent claim 81 calls for a combination including, for example, “determining whether a geographical data base associating bi-dimensional positioning coordinates with corresponding altitude coordinates is available” and “deriving, in response to determining that the geographical data base is not available, an estimate of said altitude coordinate from information related to an altitude of one or more network elements in said cellular communications system.”

Applicants submit that none of the cited art, whether taken alone or in combination, discloses or suggests at least “determining whether a geographical data base associating bi-dimensional positioning coordinates with corresponding altitude

coordinates is available” and “deriving, in response to determining that the geographical data base is not available, an estimate of said altitude coordinate from information related to an altitude of one or more network elements in said cellular communications system,” as recited in independent claim 81.

The Examiner acknowledges that “Nir does not teach the altitude coordinate which is related to the cellular communication (base station).” Non-final Office Action dated September 9, 2008, at 3. Thus, there is no dispute that Nir et al. fails to disclose or suggest at least “determining whether a geographical data base associating bi-dimensional positioning coordinates with corresponding *altitude coordinates* is available” and “deriving . . . *an estimate of said altitude coordinate*,” as recited in Applicants’ independent claim 81.

Zhao likewise fails to disclose or suggest at least “determining whether a geographical data base associating bi-dimensional positioning coordinates with corresponding altitude coordinates is available” and “deriving, in response to determining that the geographical data base is not available, an estimate of said altitude coordinate,” as claimed. Therefore, Zhao does not remedy the above-noted deficiencies in Nir et al. with reference to independent claim 81, whether these cited references are considered alone or in combination.

Even if the “coarse altitude” in Zhao is assumed to correspond to Applicants’ claimed “estimate of said altitude coordinate”—an assumption with which Applicants do not agree—Zhao still fails to disclose or suggest at least “determining whether a geographical data base associating bi-dimensional positioning coordinates with corresponding altitude coordinates is available,” as recited in claim 81. That is, Zhao

does not disclose or suggest determining the availability of a geographical database that associates “coarse altitude” values with bi-dimensional positioning coordinates. In fact, Zhao appears to disclose embodiments that teach away from using “a geographical data base associating bi-dimensional positioning coordinates with corresponding altitude coordinates,” as claimed, since the “coarse altitude” in Zhao can be automatically associated with a set of bi-dimensional coordinates without the need for any additional database lookup operations. See, e.g., Zhao, ¶ 0018 (“If only a 2-dimensional solution is available, the coarse altitude can be used as the derived altitude [for the estimated three-dimensional location]”).

Applicants’ independent claim 81 is allowable over the art of record for at least the reason that the Examiner’s asserted combination of Nir et al. and Zhao fails to teach or suggest at least “determining whether a geographical data base associating bi-dimensional positioning coordinates with corresponding altitude coordinates is available” and “deriving, in response to determining that the geographical data base is not available, an estimate of said altitude coordinate from information related to an altitude of one or more network elements in said cellular communications system,” as recited in claim 81. Dependent claim 82 depends on independent claim 81 and is allowable for at least the same reasons.

Conclusion

The preceding remarks are based only on the arguments in the Office Action, and therefore do not address patentable aspects of the invention that were not addressed by the Examiner in the Office Action. The claims may include other elements that are not shown, taught, or suggested by the cited art. Accordingly, the


preceding remarks in favor of patentability are advanced without prejudice to other possible bases of patentability.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and timely allowance of the pending claims. Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: December 2, 2008

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